

A STUDY OF THE VOCABULARY OF JUNIOR AND SENIOR HIGH  
SCHOOL AND JUNIOR COLLEGE STUDENTS WITH  
RECOMMENDATIONS FOR IMPROVEMENT

by

RUTH LOUISE HOLTON

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## THE PROBLEM

There is a widespread conviction among high school and college teachers that one of the major reasons why students fail in their studies is the fact that they cannot read intelligently and understandingly, because they do not know the meaning of words in common use; that they cannot carry on a conversation, because they do not know how and when to use words; and that they cannot write, because they do not know shades of meaning, connotations, synonyms, homonyms, and antonyms. Therefore these students cannot get their assignments, because they fail to comprehend the meaning of the content of textbooks and classroom instruction.

This conviction is supported by many investigations by students of educational psychology. Gray of the University of Chicago (1925)<sup>1</sup> gives the lack of word knowledge as the main cause for pupil failure in our public schools and colleges. In a study of the comprehension difficulties in reading made by Irion (1925)<sup>2</sup> he says, "Word knowledge seems to stand out as a very significant item in reading comprehension." Anderson (1928)<sup>3</sup> found a high correlation between word knowledge and reading ability of college students. He says, "Many college students cannot read

sufficiently well ordinary reading assignments. General word knowledge as measured by the Holley Vocabulary Scale bears a close relationship to the ability to read material."

Kirkpatrick (1907)<sup>4</sup> testing a group of college freshmen found "That those ranking high in scholarship knew, on the average, five per cent more words than those ranking low in scholarship."

Pressey (1924)<sup>5</sup> says, "It has become increasingly evident from recent school investigations in more than one school subject\* that learning of each school subject consists in the formation of a large number of very specific habits. No longer are 'ability to add', 'ability to read', or 'ability to write' considered as single capacities, but rather as a composite number of separate skills. The 'ability to read' may certainly be broken up into a number of less general 'abilities' among which an adequate knowledge of vocabulary is one of the most important."

It is not claimed by any one that a limited vocabulary is the sole cause of the lack of comprehension in reading, but it is an important factor. It has been demonstrated by Hilliard (1932)<sup>6</sup> that the "extent of one's vocabulary is a large factor in the comprehension scores made in standard

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\*Thorndike in Arithmetic, Ashbaugh in Spelling, and Freeman in Handwriting.

reading tests." According to Yeakam (1922)<sup>7</sup> "The most important factors that effect comprehension favorably are, in the order named, high intelligence, good vocabulary, power to organize, effective rate, and power to reproduce ideas gained."

In the Twenty-Fourth Yearbook of the National Society for the Study of Education (1925)<sup>8</sup> this statement is found: "The reader must recognize words and must fit them into the meaning of his text. This means instantaneous recognition of known words and groups of words and effective habits of independent attack in dealing with unknown words....."

"All enrichment of experience both within and without the school, has a direct influence upon the reading vocabulary. Valuable as is this source of growth, the school must supplement it with very definite training in order to insure rapid growth. There must be conscious selection of experiences which are valuable for pupils, the choice of words to associate with these experiences, and thorough training in the use of this vocabulary."

The foregoing statements may be said to voice the opinions of the majority of high school and college teachers who realize that a student must know words before he can read or listen with understanding, and who know that a student must be able to do these things if he is going to grasp the meaning of class work.

The purpose of this study is to secure some objective data bearing on the vocabulary of high school and college students; to discover the improvement, if any, in the vocabulary of a pupil as he advances through school; to determine the difference, if one exists, between the vocabularies of the two sexes; and to make recommendations, based on these data and data from other studies, for the improvement of the vocabularies of students in junior and senior high schools, and junior colleges.

## METHOD AND PROCEDURE

The Independence, Kansas, school system was chosen for this study for two reasons: (1) it was the system in which the writer was teaching, and so was available; (2) it is representative of the school systems of the state. The Independence schools are built on the 6-3-3-3 plan. This division of classes was highly desirable for a study of this kind, because it afforded opportunity to study the vocabularies of junior high school, senior high school, and junior college students.

In order to work out the problem on vocabulary, Form I of the Markham "English Vocabulary Test for High School and College Students"<sup>2</sup> was used. There were several reasons for choosing this test. (1) It is objective in form. That fact does away with teacher opinion in the results. (2) It was constructed in accordance with the best scientific principles and practices. (3) It is a test designed to be used in both high school and junior college. In order that the results be uniform and comparable, it was necessary to give the same test from the seventh grade through junior college. (4) The test is easily administered and scored; therefore possible errors in results are reduced to a minimum.

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<sup>2</sup>Published by Public School Publishing Co., Bloomington, Ill.



The following is a copy of the test used in securing data:

Name.....Age.....Sex.....Date.....  
 City.....State.....School.....Grade.....  
 Is English the language in the home?....Teacher.....

#### GENERAL INSTRUCTIONS

This is a test to show your knowledge of words. In each sentence or expression there is a word printed in **BLACK TYPE**. Following each sentence or expression is a list of five words. You are to select the word in each list of five words that most nearly corresponds in meaning with the word in **BLACK TYPE** in the sentence or expression and place its number in the parentheses opposite the list.

#### A SAMPLE TEST

They will **REPEAL** the law. (1) evade, (2) revoke, (3) enact, (4) pass, (5) obey.....(2).

As word "No. 2 - revoke" most nearly corresponds in meaning with the word "**REPEAL**" in the sentence a "2" is placed in the parentheses opposite the list.

On this and the following pages you will find a list of one hundred twenty-five sentences and expressions similar to the one given above. As soon as you are certain what you are to do, you may start. **DO NOT HURRY. THIS IS NOT A SPEED TEST. IT IS TO TEST YOUR KNOWLEDGE OF WORDS.**

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1. It is **ASTONISHING**. (1) bad, (2) thorough, (3) furious, (4) amazing, (5) stormy.....( )
  2. A **BRIGHT** metal. (1) counterfeit, (2) shining, (3) hard, (4) rough, (5) heavy.....( )
  3. The inmates will **SUPPlicate**. (1) starve, (2) smother, (3) survive, (4) break away, (5) mutiny.....( )
  4. A **MUSICAL** sound. (1) vocal, (2) organic, (3) melodious, (4) melodramatic, (5) magnificent.....( )
  5. He **COMPLAINS** continually. (1) grows, (2) finds fault, (3) sings, (4) laughs, (5) prays.....( )



6. They **QUOTE** your poem. (1) refuse, (2) portray, (3) shun,  
(4) believe, (5) repeat.....( )
7. The **GLANCE** displeased her. (1) summary, (2) remark, (3)  
glare, (4) color, (5) quick look.....( )
8. A distressing **HOWL**. (1) wail, (2) moment, (3) incident,  
(4) scene, (5) thought.....( )
9. They made the **ALTERATION**. (1) garment, (2) subway, (3)  
compact, (4) hill, (5) change.....( )
10. They are **BEYOND** our care. (1) past, (2) in, (3) sent  
through, (4) chiefly, (5) entirely.....( )
11. A **SNEERING** remark. (1) cutting, (2) hurried, (3) sarcas-  
tic, (4) clumsy, (5) honest.....( )
12. A low **BANK** shields us. (1) house, (2) mound, (3)  
stack, (4) curtain, (5) tide.....( )
13. She sat in **PASSIVE** mood. (1) flamboyant, (2) mirthful,  
(3) thoughtful, (4) frightful, (5) quarrelsome.....( )
14. The man was **ABUSIVE**. (1) insulting, (2) drunk, (3)  
angry, (4) crazy, (5) scared.....( )
15. A giant **BOWLER**. (1) cactus, (2) tree, (3) turtle, (4)  
panther, (5) stone.....( )
16. They met for a **CONFERENCE**. (1) interview, (2) musical,  
(3) crowd, (4) contest, (5) camp party.....( )
17. You **JURRESS** the wrong point. (1) emphasize, (2) attack,  
(3) omit, (4) select, (5) believe.....( )
18. A **SYNOPSIS** was given. (1) summary, (2) drama, (3) sys-  
tem, (4) bonus, (5) vacation.....( )
19. They examined the **MUMMY**. (1) moron, (2) inmate, (3)  
wounded king, (4) Shah, (5) embalmed body.....( )
20. A **FORGIVABLE** action. (1) traitorous, (2) offensive, (5)  
hasty, (4) cowardly, (3) pardonable.....( )
21. A **FANFUL** calamity. (1) exciting, (2) great, (3)  
terrible, (4) impressive, (5) uncalled for.....( )
22. His **BACON** refused. (1) supporter, (2) companion, (3)  
coachman, (4) employer, (5) wife.....( )
23. A complete **IDEA**. (1) intention, (2) pattern, (3)  
thought, (4) trial, (5) observance.....( )
24. He went into **RETIEMENT**. (1) auto-salvage, (2) spasms,  
(3) seclusion, (4) gerrymandering, (5) repair work.....( )
25. A **NOTED** man. (1) kind, (2) distinguished, (3) steady,  
(4) indebted, (5) educated.....( )
26. The **EVENT** was disastrous. (1) news, (2) incident, (3)  
decision, (4) meeting, (5) evidence.....( )
27. She is **PLEGGED** to us. (1) kind, (2) faithful, (3) rude,  
(4) sent, (5) promised.....( )
28. They took the **CENSUS**. (1) order, (2) money, (3)  
enumeration, (4) paper-file, (5) bank-book.....( )
29. An **ABNORMAL** situation. (1) common, (2) unusual, (3)  
blackened, (4) hopeful, (5) good.....( )

30. The statement was ACCURATE. (1) accepted, (2) correct, (3) important, (4) wrong, (5) complete.....( )
31. They relieved the TENSION. (1) mortgage, (2) sufferer, (3) strain, (4) party, (5) students.....( )
32. They engaged in a SKIRMISH. (1) artillery-fire, (2) search, (3) repartee, (4) debate, (5) light combat ( )
33. They viewed the DECEASED. (1) quarry, (2) sepulcher, (3) milk wagon, (4) dead, (5) old nest.....( )
34. The EDDY is dangerous. (1) whirlpool, (2) glacier, (3) country, (4) storm, (5) river.....( )
35. They QUAKE when he speaks. (1) shout, (2) cheer, (3) come, (4) tremble, (5) retreat.....( )
36. He had a PREMONITION. (1) private bath, (2) parachute, (3) forewarning, (4) cartridge, (5) fuse.....( )
37. The TURMOIL was great. (1) mud, (2) foam, (3) agitation, (4) water-fall, (5) whirlpool.....( )
38. The author of our BEING. (1) books, (2) thoughts, (3) manners, (4) existence, (5) advantage.....( )
39. Our FARE was paid. (1) bill, (2) price, (3) part, (4) passage, (5) interest.....( )
40. We shot the DRAKE. (1) pelican, (2) male-duck, (3) wild goose, (4) marsh-hawk, (5) grouse.....( )
41. The child is IMPERTINENT. (1) rude, (2) bright, (3) peevish, (4) sickly, (5) quarrelsome.....( )
42. A complete CYCLE. (1) term, (2) course, (3) day, (4) revolution, (5) conjunction.....( )
43. A SACRED prayer. (1) able, (2) Pharisaic, (3) consecrated, (4) Chinese, (5) voluminous.....( )
44. I CLAIM certain rights. (1) request, (2) demand, (3) beg, (4) imply, (5) refuse.....( )
45. A restful HAMLET. (1) valley, (2) stream, (3) song, (4) painting, (5) village.....( )
46. They LAMENT the loss. (1) overcome, (2) forget, (3) bewail, (4) impose, (5) transfer.....( )
47. They loaded the GALLEON. (1) shot-gun, (2) dice, (3) bat, (4) ship, (5) elevator.....( )
48. DOFF your hats. (1) put on, (2) change, (3) color, (4) take off, (5) burn.....( )
49. AN AZURE sky. (1) blue, (2) gray, (3) clouded, (4) smoky, (5) crimson.....( )
50. A mass of COAGULUM. (1) corn, (2) sugar, (3) rope, (4) clotted blood, (5) ants.....( )
51. A perfect MODEL. (1) person, (2) imp, (3) pattern, (4) engraving, (5) caricature.....( )
52. A TITANIC force. (1) army, (2) naval, (3) artistic, (4) fairy, (5) gigantic.....( )
53. A greedy HERON. (1) pig, (2) person, (3) waterfowl, (4) nature, (5) thought.....( )

54. We **ENLIVEN** our senses. (1) enliven, (2) rob, (3) entangle, (4) educate, (5) stupefy.....( )
55. He discharged the **AGENT**. (1) captive, (2) manager, (3) representative, (4) janitor, (5) help.....( )
56. He gave a **SAMPLE**. (1) dose, (2) assignment, (3) treatment, (4) specimen, (5) song-book.....( )
57. He was skilled in **MIMICKY**. (1) entertaining, (2) derision, (3) ridicule, (4) photography, (5) imitation( )
58. They will **DISPERSE** the crowd. (1) entertain, (2) scatter (3) provoke, (4) surprise, (5) discern.....( )
59. An **IRATE** parent. (1) indulgent, (2) kind, (3) wrathful, (4) unpopular, (5) only.....( )
60. **BLUING** colors the water. (1) ink, (2) blood, (3) indigo, (4) red-lead, (5) paint.....( )
61. A **POLYHEDRAL** solid. (1) many-sided, (2) smooth, (3) hexagonal, (4) square, (5) cubical.....( )
62. The sentence is **INCOMPLETE**. (1) short, (2) imperfect, (3) descriptive, (4) vulgar, (5) incorrect.....( )
63. A **COUNTERFEIT** dollar. (1) silver, (2) Mexican, (3) spurious, (4) foreign, (5) bottom.....( )
64. A **RANDOM** remark. (1) quick, (2) putrid, (3) aimless, (4) shameful, (5) flat.....( )
65. An **AQUATIC** bird. (1) large, (2) land, (3) water, (4) dangerous, (5) beautiful.....( )
66. She was very **DEMURE**. (1) haughty, (2) sleepy, (3) quaint, (4) bold, (5) modest.....( )
67. An **OR-IONATED** man. (1) conceited, (2) vain, (3) profane, (4) humble, (5) courageous.....( )
68. He read the **BRIEF**. (1) article, (2) summary, (3) warrant, (4) text, (5) book.....( )
69. We stayed at the **HOSTELRY**. (1) farm, (2) depot, (3) inn, (4) barn, (5) asylum.....( )
70. You have **CAPILLARY** tubes. (1) long, (2) inner, (3) hair-like, (4) boiler, (5) rubber.....( )
71. Their condition is **DEPLORABLE**. (1) good, (2) restored, (3) strengthened, (4) lamentable, (5) unusual.....( )
72. We gave them **ODDS**. (1) shares, (2) bonds, (3) interest, (4) the dickens, (5) advantage.....( )
73. The article has **CONSEQUENCE**. (1) beauty, (2) strength, (3) wealth, (4) sense, (5) consistency.....( )
74. We **CONFIDE** in our friends. (1) depend, (2) trust, (3) rely, (4) believe, (5) repose.....( )
75. They conserved their **TINDER**. (1) strength, (2) energy, (3) kindling, (4) numbers, (5) forest.....( )
76. They were versed in **MYTHOLOGY**. (1) science, (2) astrology, (3) history of martyrs, (4) buffoonery, (5) legendary science.....( )
77. The **JOBBER** spoke fluently. (1) parrot, (2) candidate, (3) mid-shipman, (4) middle-man, (5) organizer.....( )

78. We visited a CASCADÉ. (1) spot, (2) earthquake, (3) glacier, (4) water-fall, (5) mountain.....( )
79. The FAGOT was lost. (1) cream-bottle, (2) jug, (3) pot, (4) bundle of sticks, (5) cigarette.....( )
80. A RUSTIC lad. (1) rural, (2) school, (3) urban, (4) ugly, (5) promising.....( )
81. The house was RAZED. (1) removed, (2) built, (3) leveled to the ground, (4) covered, (5) packed....( )
82. AN INSIPID liquid. (1) bitter, (2) sweet, (3) dark, (4) poison, (5) tasteless.....( )
83. He exercised PRUDENCE. (1) care, (2) power, (3) craft, (4) cunning, (5) stealth.....( )
84. A large CONCH. (1) negro, (2) tree, (3) shell, (4) fish, (5) maid.....( )
85. We prepared a TRANSCRIPT. (1) reception, (2) verdict, (3) subpoena, (4) sentence, (5) copy.....( )
86. The EXTIRPATOR of evil. (1) teacher, (2) progenitor, (3) champion, (4) eradicator, (5) solicitor.....( )
87. AN AROGANT man. (1) friendly, (2) mean, (3) haughty, (4) large, (5) polite.....( )
88. They BUFFET the child. (1) pet, (2) beat, (3) love, (4) humor, (5) tolerate.....( )
89. The EFFERVESCENCE continued. (1) bubbling, (2) stream, (3) procession, (4) argument, (5) moaning.....( )
90. A desolate MALEFACTOR. (1) rogue, (2) drunkard, (3) officer, (4) criminal, (5) Frenchman.....( )
91. His INFLEXIBILITY was unmoved. (1) emotion, (2) opinion, (3) compassion, (4) purpose, (5) obstinacy.....( )
92. You may EXPUNGE the sentence. (1) analyse, (2) correct, (3) erase, (4) use, (5) add.....( )
93. A FLATTERING compliment. (1) generous, (2) false, (3) pleasing, (4) reckless, (5) deserved.....( )
94. A beautiful MEDALLION. (1) scroll, (2) flower, (3) debutant, (4) medal, (5) dolly.....( )
95. They MANIFEST a lovable disposition. (1) possess, (2) spoil, (3) encourage, (4) entertain, (5) reveal....( )
96. They caught a FINBACK. (1) cold, (2) whale, (3) muskrat, (4) woodchuck, (5) fish.....( )
97. The GAVEL sounded. (1) bugle, (2) drum, (3) mallet, (4) earth, (5) rain-barrel.....( )
98. AN OVERT act. (1) clownish, (2) open, (3) quick, (4) legislative, (5) selfish.....( )
99. We shall CONVOY the fleet. (1) send, (2) summon, (3) entertain, (4) assemble, (5) escort.....( )
100. A NOCTURNAL occurrence. (1) slow, (2) negative, (3) needed, (4) by night, (5) regular.....( )

101. A splendid ONTOGRAPHER. (1) photographer, (2) speller, (3) engraver, (4) poet, (5) historian.....( )
102. The ISOLATION was thorough. (1) incubator, (2) isotherm, (3) separation, (4) operation, (5) imitation.....( )
103. We GARNER the grain. (1) harvest, (2) plant, (3) store, (4) shock, (5) thresh.....( )
104. A PENURIOUS man. (1) dangerous, (2) chameless, (3) dirty, (4) stingy, (5) rich.....( )
105. We commend his RECTITUDE. (1) company, (2) simplicity, (3) gallantry, (4) integrity, (5) fluency.....( )
106. The ESPLANADE was crowded. (1) train, (2) fair ground, (3) assembly, (4) hall, (5) open level place.....( )
107. The PINION broke. (1) crank-shaft, (2) lever, (5) rope, (4) bar, (5) small cog-wheel.....( )
108. A RODENT animal. (1) roaming, (2) vanishing, (3) historic, (4) gnawing, (5) monstrous.....( )
109. A LAMBERT ogress. (1) haughty, (2) light, (3) obnoxious, (4) loving, (5) cherished.....( )
110. A haughty JANIBARY. (1) general, (2) ruler, (3) brigand, (4) Turkish soldier, (5) Prince.....( )
111. They HATCHEL the flax. (1) grow, (2) comb, (3) cut, (4) bind, (5) thresh.....( )
112. CHYLE is necessary to life. (1) digested food, (2) air, (3) water, (4) oxygen, (5) salt.....( )
113. His SATIRE was amusing. (1) irony, (2) story, (3) experience, (4) makeup, (5) emotion.....( )
114. The fumes HAUSEATE. (1) sicken, (2) pledge, (3) kill, (4) increase, (5) overpower.....( )
115. A PURULENT disease. (1) dangerous, (2) obnoxious, (3) leathene, (4) pus-forming, (5) degenerate.....( )
116. A mild appearing PHYSIOGNOMY. (1) temper, (2) answer, (3) saying, (4) countenance, (5) temperament.....( )
117. He reached a state of AFFLUENCE. (1) mind, (2) honor, (3) affairs, (4) wealth, (5) dignity.....( )
118. PARSIMONY is his worst fault. (1) swearing, (2) lying, (3) stinginess, (4) slothfulness, (5) laziness.....( )
119. They PARN their jewels. (1) sell, (2) rent, (3) pledge, (4) borrow, (5) wear.....( )
120. A lengthy PROM. (1) preface, (2) sentence, (3) speech, (4) essay, (5) description.....( )
121. He succeeded by LUCUBRATION. (1) thrift, (2) hardihood, (3) night study, (4) deep study, (5) deceit.....( )
122. A tiresome PERIMPHASIS. (1) person, (2) walk, (3) journey, (4) essay, (5) circumlocution.....( )
123. A long PETIOLE. (1) pole, (2) stem, (3) ear, (4) shrub, (5) leafstalk.....( )



124. They were placed in Juxtaposition. (1) contiguity, (2) pairs, (3) lines, (4) columns, (5) conformity.....( )
125. His CONSTITUTION failed him. (1) constitution, (2) mission, (3) recklessness, (4) electors, (5) children.....( )

Each English teacher in the Independence Junior and Senior High School and Junior College devoted one class period on April 2, 1939, to administering the test. All these teachers had definite instructions on how to give the tests. No teacher received her tests before the date set, so that there was no opportunity to review the words which make up the test. There was no time limit set. Every student was given time to finish. In order to secure uniformity the test papers were scored by the writer. This was a task that required many hours of careful work.

The test was hard enough so that no one made a perfect score. On the other hand, no one made a grade of zero. Since these two facts were true it was possible to measure everyone's ability. This is an essential factor in any trustworthy achievement test.

Eight hundred and ninety-four students enrolled in regular classes in English grammar and composition took the test. There was no twelfth year English course offered in the Independence system. That fact accounts for the absence of data in that grade.

## TABULATION AND INTERPRETATION OF DATA

TABLE I. Showing Frequency of Scores for Boys and Girls in Junior High School.

Score	Distribution of Scores								
	Seventh		Eighth		Ninth		Junior H.		Total
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	
105-114		1						1	1
95-104	2		1	1	5	5	8	6	14
85-94	2		14	5	7	12	23	17	40
75-84	4	12	5	7	3	26	18	45	63
65-74	3	12	12	12	15	19	26	45	71
55-64	13	11	20	17	16	21	43	49	98
45-54	12	21	10	16	15	22	37	59	96
35-44	18	14	10	12	4	4	32	30	62
25-34	14	8	10	8	3	8	27	15	42
15-24	2		5	2			5	2	7
Total	70	79	85	77	72	111	227	267	494

The vocabulary tests were given to 70 boys and 79 girls in the seventh grade. A glance at Table I and Figure 1 will show the distribution of their scores. The highest score is 106 made by a girl; the lowest is 25 made twice by boys.

In the eighth grade 85 boys and 77 girls took the test and received the scores shown in Table I and Figure 2. The highest score is 102 made by a boy; the lowest is 15 made also by a boy.



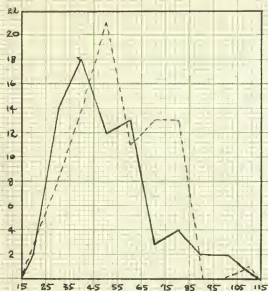


Figure 1. Frequency Polygon Showing Seventh Grade Scores.

Boys ———  
Girls - - - -

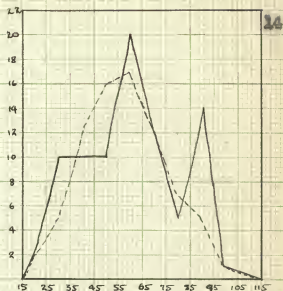


Figure 2. Frequency Polygon Showing Eighth Grade Scores.

Boys ———  
Girls - - - -

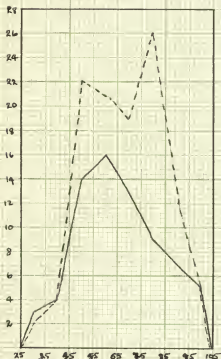


Figure 3. Frequency Polygon Showing Ninth Grade Scores.

Boys ———  
Girls - - - -

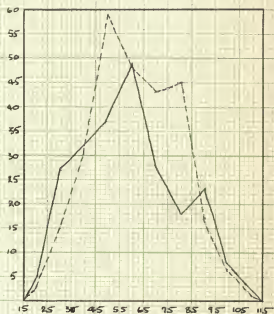


Figure 4. Frequency Polygon Showing Junior High School Scores.

Boys ———  
Girls - - - -

Seventy-two boys and 111 girls in the ninth grade took the test. The frequency of their scores is shown in Table I, and Figure 3. The highest score is 102 made by a boy; the lowest is 28 made by a girl.

In the entire junior high school 227 boys and 267 girls took the test making a total of 494 students tested. The highest score is 106 made by a seventh grade girl; the lowest is 15 made by an eighth grade boy.

TABLE II. Showing Frequency of Scores for Boys and Girls in Senior High School.

Score	Distribution of Scores						
	Tenth		Eleventh		Senior High		Total
	Boys	Girls	Boys	Girls	Boys	Girls	
105-114	2	1	7	6	9	7	16
95-104	9	7	14	13	23	20	43
85-94	15	21	11	16	24	37	61
75-84	20	23	11	27	31	50	81
65-74	10	19	12	15	22	34	56
55-64	15	18	8	9	23	27	50
45-54	5	15		2	5	15	18
35-44	4	4		3	4	7	11
25-34		5	1	1	1	4	5
Total	76	109	64	32	140	201	341

In the tenth grade 76 boys and 109 girls took the test. The distribution of their scores is shown in Table II and Figure 5. The highest score is 106 made by a boy; the lowest is 29 made by a girl.

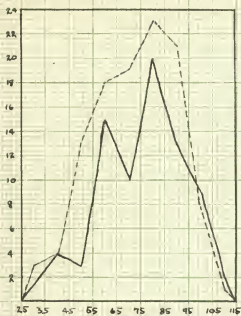


Figure 5. Frequency Polygon Showing Tenth Grade Scores.

Boys ———  
Girls - - - -

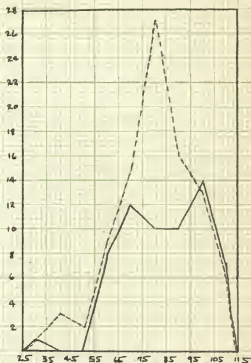


Figure 6. Frequency Polygon Showing Eleventh Grade Scores.

Boys ———  
Girls - - - -

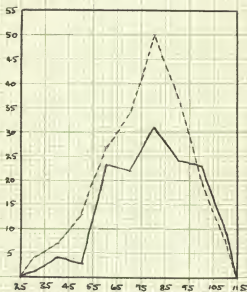


Figure 7. Frequency Polygon Showing Senior High School Scores.

Boys ———  
Girls - - - -

Sixty-four boys and 92 girls in the eleventh grade took the test, and received the scores shown in Table II and Figure 6. The highest score is 114 made by a girl; the lowest is 52 made also by a girl.

The highest score for the entire school is 114 made by an eleventh grade girl; the lowest is 29 made by a tenth grade girl.

TABLE III. Showing Frequency of Scores for Boys and Girls in Junior College.

Score	Distribution of Scores		
	Boys	Girls	Total
115-124	3		3
105-114	1	4	5
95-104	7	15	22
85-94	8	12	14
75-84	5	4	9
65-74	1	2	3
55-64	1	1	2
45-54		1	1
Total	20	39	59

In the thirteenth year 20 boys and 39 girls took the test and received the scores as shown in Table III and Figure 6. The highest score is 118 made by a boy; the lowest is 50 made by a girl.

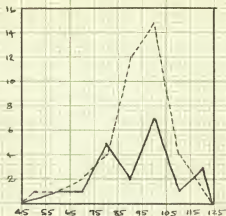


Figure 8. Frequency Polygon  
Showing Thirteenth Grade Scores.

Boys ———  
Girls - - - -



Figure 9. Frequency Polygon Showing Junior and Senior High  
School and Junior College Scores.

Boys ———  
Girls - - - -

TABLE IV. Showing Frequency of Scores According to Schools.

Scores	Distribution of Scores								
	Jr. High		Sr. High		Jr. Coll.		All Schools		
Perfect score is 125.	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Total
115-124					3		3		3
105-114		1	9	7	1	4	10	12	22
95-104	8	6	23	20	7	15	33	41	79
85-94	23	17	24	27	2	12	49	66	115
75-84	18	45	31	50	5	4	54	99	153
65-74	26	43	22	34	1	2	51	79	130
55-64	49	49	23	27	1	1	73	77	150
45-54	37	59	3	15		1	40	75	115
35-44	32	30	4	7			36	37	73
25-34	27	15	1	4			29	19	47
15-24	5	2					5	2	7
Total	227	267	140	201	20	39	367	507	894

For the entire school system from the junior high through the freshman year in junior college 367 boys and 507 girls took the tests. The frequency of their scores is shown in Table IV and Figure 9. The highest score is 118 made by a boy in the junior college; the lowest is 15 made by a boy in the eighth grade.



68.42 all school

92.56 junior college

77.20 senior high school

89.48 junior high school

92.56 thirteenth gr.

81.56 eleventh grade

73.51 tenth grade

65.70 ninth grade

63.72 eighth grade

52.43 seventh grade

92.10 girls) 13th

93.45 boys ) grade

80.24 girls ) 11th

83.47 boys ) grade

71.65 girls ) 10th

76.18 boys ) grade

66.75 girls) 9th

64.58 boys ) grade

57.71 girls ) 8th

59.64 boys ) grade

55.13 girls ) 7th

49.56 boys ) grade

Figure 10. Showing the Mean Score for All Three Schools, for Each School, for Boys and Girls, and for Each Class.



TABLE V. Showing Mean Scores of Boys and Girls, of Grades, of Schools, and of All the Pupils Tested.

Grade	Boys Mean	Girls Mean	Grade Mean	School Mean	Total
7	49.36	55.15	52.45		
8	59.64	57.71	58.72	59.43	
9	64.58	60.75	65.70		60.42
10	76.13	71.65	73.81	77.20	
11	83.47	80.85	81.56		
13	93.45	92.10	92.56	92.56	

Table V and Figure 10 show the mean score for the three schools, for each school separately, for boys and girls in each grade, and for each grade.

The mean scores for each school graduate rather consistently from junior high school to junior college. In a similar manner the mean scores for the grades show a gradual development of vocabulary from the seventh grade to the thirteenth.

In every case except two, the seventh and ninth grades, the boys slightly outrank the girls on mean scores.

TABLE VI. Showing the Percentage and the Number of Times that Each Word Was Missed.

Word	Meaning	Per Cent	Number
Astonishing	Amazing	9.72	87
Bright	Shining	6.94	62
Suffocate	Smother	16.67	149
Musical	Melodious	23.61	211
Complains	Finds fault	4.16	37
Quote	Repeat	19.44	176

Table VI continued:

Glance	Quick look	20.83	186
Howl	Wail	25.00	224
Alteration	Change	25.00	224
Beyond	Past	13.88	124
Sincere	Honest	25.00	224
Bank	Mound	25.61	211
Pensive	Thoughtful	33.33	298
Abusive	Insulting	26.38	236
Boulder	Stone	18.05	161
Conference	Interview	30.55	273
Stress	Emphasize	33.33	298
Synopsis	Summary	25.00	224
Mummy	Mummified body	22.22	199
Forgivable	Pardonable	25.00	224
Fearful	Terrible	26.38	236
Backer	Supporter	23.61	211
Idea	Thought	19.44	178
Retirement	Seclusion	34.72	310
Noted	Distinguished	34.72	310
Event	Incident	30.55	273
Pledged	Promised	34.72	310
Census	Enumeration	36.11	323
Abnormal	Unusual	27.77	248
Accurate	Correct	18.05	161
Tension	Strain	36.11	323
Skirmish	Light combat	40.27	360
Deceased	Dead	26.38	236
Body	Whirlpool	31.94	286
Craze	Tremble	31.94	286
Promotion	Forewarning	31.94	286
Turmoil	Agitation	44.44	397
Being	Existence	43.05	385
Fare	Passage	50.00	457
Drake	Male-duck	26.38	236
Impertinent	Rude	36.88	343
Cycle	Revolution	31.94	286
Sacred	Consecrated	33.33	298
Claim	Demand	31.94	286
Hamlet	Village	33.33	298
Lament	Bewail	31.94	286
Calleen	Ship	43.05	385
Boff	Take off	12.50	112
Azure	Blue	25.00	224
Coagulum	Clotted blood	44.44	397
Model	Pattern	38.83	348

TABLE VI continued:

Titanic	Gigantic	44.44	597
Heron	Waterfowl	36.11	523
Bemumb	Stupefy	33.33	399
Agent	Representative	36.11	523
Sample	Specimen	30.55	273
Ministry	Imitation	45.03	410
Disperse	Scatter	29.16	261
Irate	Wrathful	38.89	348
Bluing	Indigo	31.94	286
Polyhedral	Many-sided	43.03	385
Incomplete	Imperfect	43.03	385
Counterfeit	Spurious	29.16	261
Random	Aimless	41.66	372
Aquatic	Water	51.38	459
Demure	Modest	44.44	397
Opinionated	Concoited	48.61	435
Brief	Summary	38.89	348
Hostelry	Inn	43.03	385
Capillary	Hair-like	48.61	435
Deplorable	Lamentable	43.03	385
Odds	Advantage	47.22	422
Coherence	Consistency	56.94	509
Confide	Trust	40.27	360
Tinder	Kindling	44.44	397
Mythology	Legendary science	43.03	385
Jobber	Middle-man	45.03	415
Cascade	Water-fall	47.22	422
Fagot	Bundle of sticks	48.61	435
Rustic	Rural	47.22	422
Razed	Levelled to the ground	54.16	484
Inspid	Tasteless	52.77	472
Prudence	Care	48.61	435
Conch	Shell	51.38	459
Transcript	Copy	29.16	261
Extirpator	Eradicator	85.27	584
Arrogant	Haughty	56.94	509
Buffet	Beat	47.22	422
Effervescence	Bubbling	58.33	521
Malefactor	Criminal	86.66	596
Inflexibility	Obstinacy	41.66	372
Expunge	Erase	73.61	658
Flattering	Pleasing	30.55	273
Medallion	Medal	63.83	571
Manifest	Reveal	55.55	497
Finback	Whale	90.27	807
Cavel	Mallet	41.66	372

TABLE VI continued:

Overt	Open	81.94	733
Convoy	Escort	51.39	459
Nocturnal	By night	63.68	571
Orthographer	Speller	70.83	633
Isolation	Separation	41.66	372
Garnet	Store	84.72	757
Pecurious	Stingy	66.66	596
Rectitude	Integrity	68.05	608
Esplanade	Open level space	89.72	359
Pinion	Small cog-wheel	63.68	571
Rodent	Gnawing	51.39	459
Lambent	Light	68.05	608
Janizary	Turkish soldier	68.05	608
Hatchel	Comb	66.66	596
Chyle	Digested food	77.77	695
Satire	Irony	68.33	521
Nauseate	Sicken	50.27	360
Purulent	Pus-forming	66.66	596
Physiognomy	Countenance	63.68	571
Affluence	Wealth	68.05	608
Parasitism	Stinginess	79.16	708
Pawn	Pledge	76.38	683
Praem	Preface	66.66	596
Lucubration	Night study	90.29	807
Periphrasis	Circumlocution	81.94	733
Petiole	Leaf-stalk	72.22	646
Juxtaposition	Contiguity	76.38	683
Constituency	Electors	79.16	708

Table VI shows that some very common words, which every student should know, were missed. For example, 62 students failed to comprehend the meaning between "bright" and "shining"; 211 failed on "musical" and "melodious"; 124 on "beyond" and "past"; 224 on "sincere" and "honest"; 178 on "idea" and "thought"; 310 on "noted" and "distinguished". Surely words as simple as these should be known by all students from the seventh grade to the junior college.

TABLE VII. Showing the Number Times the Words Were Missed and the Average Number of Words Missed.

	36 Low Papers	36 High Papers
Number times the 125 words were missed.....	3191	802
Average number times words were missed.....	25.45	6.42
Average number words missed per pupil.....	88.50	22.28

The papers of the six students ranking the lowest and the six ranking the highest in each of the six grades tested were selected as a sample. From Table II it can be seen that those who ranked the lowest missed four times as many words as those who ranked the highest.

On the vocabulary test there appears the question: "Is English the language in the home?" Only seven students replied "No" -- two in the seventh grade and five in the ninth. The scores of the two in the seventh grade are 27 and 28, both of which are far below the mean. The scores of the five in the ninth grade are 45, 51, 57, 78 and 84. The first three of these scores are below the mean; the last two are above.

## CONCLUSIONS AND RECOMMENDATION

One of the most important abilities a person should have is the use of the English vocabulary. It is the key to all knowledge. To help the student build his vocabulary is the job of the teacher, particularly the English teacher. Some time each week should be devoted to vocabulary study. At no time should a student be allowed to pass over a word of which he does not know the meaning. This applies not only in the English class, but in all the classes of the student. The English teacher alone cannot go far in widening a student's vocabulary. Every teacher should insist that the student master the vocabulary peculiar to the subject.

Alderman(1925)<sup>6</sup> found that exercises in vocabulary training are most valuable for improving the comprehension of good readers.

"While general comprehension is often improved by incidental causes, the best results are obtained when some particular phase of comprehension, such as vocabulary or organization, is subjected to training", Yeaman (1928)<sup>7</sup> tells us. Again he says, "The development of a larger vocabulary of useful words should result from the



child's informational reading. Attention to the meanings of words ---- study of synonyms, homonyms, and antonyms ---- is advocated as an additional aid to vocabulary development. Such devices as the classification exercises, opposite drill, and certain word-completion exercises are good for development of vocabulary. The child should be interested in words. The word record in his notebook should receive frequent additions of new words he has met in his reading. He should be encouraged to use helpful words which he has learned incidentally. Words should be noted, compared, and classified in lessons occasionally devoted to this particular purpose. Careless use of words and indifference to them should yield to direct treatment."

The old favorite way of having the student learn his vocabulary is to put on the board a list of words and tell him for his next assignment to look up the meaning of the words listed. They may or may not have something to do with the other class work. If they do have, then the assignment may create some interest, but if they do not have, then students will very soon tire of it.

It is true that most vocabulary drill must necessarily involve the use of the dictionary, but that drill must be made vital to the student.

One device to vitalize vocabulary drill is to have the



boy or girl keep a "Vocabulary Book". In it he may jot down words which are new to him, and words which seem to him to be particularly vivid or apt. In some cases a phrase might be put down. Each word should be followed by a sentence of definition or explanation of its particular force. This method can easily be made into a contest by having the class vote on acceptable words in any one student's notebook. The student who has the most acceptable words, according to the class vote, will of course be the winner.

Occasional tests like the one used in this problem, completion tests, true-false tests, and analogy tests will aid the teacher in measuring the student's achievement and will spur the student on to better word study.

Before starting an intensive training in vocabulary it is interesting, as well as enlightening, to both pupils and teacher to know how large is the vocabulary of the pupil. The following test worked out by Davis (1925)<sup>10</sup> is a good one to use:

Determine the number of words in a good high school or collegiate dictionary by finding the average number of words defined on a page and multiplying that number by the number of pages. Count the number of words on the pages to find the average. Then have a friend (this may be the teacher before his class) go through the dictionary and ask you the meaning of a definitely located word on every fifth or tenth page. Choose, for example, the sixth word in the second column on pages 1, 11, 21, 31, etc., or 1, 6, 11, 16, 21, etc. If you know the meaning of forty per cent

of the words called, the chances are that you recognize the meaning of forty per cent of the words in the dictionary. Multiply the total number of words in the dictionary by the percentage you recognize and you will have your reading vocabulary.

Students get enjoyment out of taking the above test and are given an impetus to work harder on their vocabularies.

The problem of building up a vocabulary is not one that can be handled by the group method. Each individual student must receive attention. He must be kept alert to the needs of his own vocabulary. Davis (1925)<sup>10</sup> says, "Nobody with a lazy mind can acquire a large and efficient vocabulary. Learning new words and learning to use both old and new words with precision is a hard task. It means the persistent use of an unabridged dictionary, and a constant watchfulness over all speech and writing." It is the task of the teachers to see that the student makes it his duty to adopt new words and to use words with exactness.

Pressey (1925)<sup>5</sup> in her investigation on technical vocabularies, states that, "All enrichment of experience both within and without the school, has a direct influence on the reading vocabulary. Valuable as is this source the school must supplement it with very definite training in order to insure rapid growth. There must be a conscious selection of experiences which are valuable for pupils, the

choice of words to associate with these experiences, and thorough training in the use of this vocabulary. Provision must be made for the measurement of progress and for individual needs. Vocabulary training must consist of a coherent, progressive program of work, just as our teaching of spelling has been improved by directing attention to the words most frequently needed in our writing vocabularies so our development of reading vocabularies will be strengthened by following the same principles of selection."

The importance of word study can hardly be exaggerated. The intelligent person knows the meaning of words, has a knowledge of the connotations, their shades of meaning, and their exact significance. The unintelligent does not. Hough (1921)<sup>12</sup> says that "There is no more curious weakness than the helplessness of some men of intellectual discipline in the presence of words. Great burly words over-awe them. They have ideas, but the gay mocking words which they want to use in expressing their thoughts make faces at them and run off quite beyond reach. There is no more immediate evidence of a fine and vigorous culture than the capacity to bend words to the purpose of one's mind with the strength of an assured mastery."

"God wove a web of loveliness,  
Of clouds and stars and birds,  
But made not anything at all  
So beautiful as words.

They shine around our simple earth  
With golden shadowings,  
And every common thing they touch  
Is exquisite with wings."

— Anna Hampstead Branch<sup>13</sup>

#### ACKNOWLEDGMENT

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